

SIXTH MEETING ON ANALYSIS AND FORMATION OF N-NITROSO COMPOUNDS

Budapest, Hungary, 12-13 October 1979

AGENDA

*Free
Contin*

TUESDAY 16 OCTOBER

- 9.00 Welcoming address - M. Bórsznyi, K. Lapis
Opening address - J. Higginson

Chemistry and Formation

Rapporteur: T. Fazio

Chairman: H. Egan

- ✓ 9.20 - 9.40 CHOW, Y.L. & POLO, J.
Nitrosamides derived from peptide models: their preparations and chemical behaviour
- ✓ 9.40 - 10.00 LOEPKY, R.N., MCKINLEY, W.A., HAZLITT, L.G., BEEDLE, E.C., DEARMAN, S.K. & GNEWUCH, C.T.
The fragmentation and transformation of s-oxidized N-nitrosamines in relation to their analysis and occurrence
- ✓ 10.00 - 10.20 HALLETT, G., JOHAL, S.S., MEYER, T.A. & WILLIAMS, D.L.H.
Reactions of nitrosamines with nucleophiles in acid solution
- ✓ 10.20 - 10.40 CHALLIS, B.C., OUTRAM, J.R. & SHUKER, E.G.
New pathways for the rapid formation of N-nitrosamines under neutral and alkaline conditions

Chairman: L. Keefer

- ✓ 11.00 - 11.20 LYLE, R.E., FRISCH, H.M., SARACINO, G., BARTON, R., JASHAWAY, N., JACOBSON, M.K. & LYLE, G.G.
Interaction of polyhydroxy compounds and nitrosamines
- ✓ 11.20 - 11.40 OKADA, M., MOCHIZUKI, M., ANJO, T., SONE, T., WAKABAYASHI, Y. & SUZUKI, E.
Formation, deoxygenation and mutagenicity of α-hydroperoxydialkyl nitrosamines

0000025709

✓ 11.40 - 12.00 CROISY, A., FANNING, J., KEEFER, L. & UHM, S.J.
Electrophilic promotion of *N*-nitrosation reactions:
a progress report
NEW TITLE

✓ 12.00 - 12.20 MICHEJDA, C.J., KOEPKE, S.R. & KUPFER, R.
Formation and chemistry of α - and β -oxidized nitrosamines

Chairman: R. Lyle

9 14.30 - 14.50 KRULL, I.S., HOFFMAN, G. & FINE, D.H. *Kinetics of nitrosamine*
The reactions of organic nitro compounds with secondary amines
leading to the formation of *N*-nitrosamines and *N*-nitramines

✓ 10 14.50 - 15.10 NEBELIN, E., PILLAI, S., LUND, E. & THOMSEN, J.
On the formation of *N*-nitrosopyrrolidine from potential
precursors and nitrite

✓ 11 15.10 - 15.30 EPSTEIN, S.S., IQBAL, Z.M. & JOHNSON, M.D.
In vivo nitrosation of morpholine in mice by inhaled NO₂

✓ 12 15.30 - 15.50 SINGER, G.M.
The mechanism of nitrosation of tertiary amines

Chairman: E.A. Walker

✓ 13 16.10 - 16.30 KIM, Y.-K., TANNENBAUM, S.R. & WISHNOK, J.S.
Nitrosation of dialkylamines in the presence of
bile acid conjugates

✓ 14 16.30 - 16.50 GROENEN, P.J., de COCK-BETHBEDER, M.W., BOUWMAN, J. & DHONT, J.H.
Formation of *N*-nitrosamines and *N*-nitrosamino acids from
food products and nitrite under simulated gastric conditions

✓ 15 16.50 - 17.10 ZIEBARTH, D. & TEICHMANN, B.
Nitrosation of some drugs and its inhibition under
simulated stomach conditions

✓ 16 17.10 - 17.30 KUBACKI, S.
The formation chemistry and stability of *N*-nitrosocarbaryl
under simulated stomach conditions

0000025710

WEDNESDAY 17 OCTOBER

Chemistry and Formation (cont.)

Rapporteur: B. Challis

Chairman: C. Rappe

- ✓ 17 9.00 - 9.20 MERGENS, W.J. & NEWMARK, H.L.
The influence of ascorbic acid and alpha-tocopherol on the formation of nitrosamines in an *in vitro* gastrointestinal model system
- ✓ 18 9.20 - 9.40 PIGNATELLI, B., FRIESEN, M. & WALKER, E.A.
The role of phenols in catalysis of nitrosamine formation
- ✓ 19 9.40 - 10.00 MIRVISH, S.S., KARLOWSKI, K., SAMS, J.P. & BIRT, D.F.
Dietary and other factors affecting nitrosomethylurea (NMU) formation in the rat stomach
- ✓ 20 10.00 - 10.20 TANNENBAUM, S.R.
Intestinal formation of nitrite and *N*-nitroso compounds
- ✓ 21 10.20 - 10.40 MASSEY, R.C., DENNIS, M.J., CREWS, C., DAVIES, R. & McWEENEY, D.J.
Model system studies on *N*-nitrosamine formation in relation to cured meat: the non-polar phase and *S*-nitroso peptides
- Chairman: G. Eisenbrand
- ✓ 22 11.00 - 11.20 ARCHER, M.C., HANSEN, T.J. & TANNENBAUM, S.R.
Compounds formed by treatment of corn (*Zea mays*) with nitrous acid
- ✓ 23 11.20 - 11.40 KANN, J.M., TAUTS, O.V., KALVE, R.E., MAGI, K.K. & BOGOVSKI, P.A.
Potential formation of *N*-nitrosamines in the course of the technological processing of some foodstuffs
- ✓ 24 11.40 - 12.00 ROLLER, P.P., KEEFER, L.K. & SLAVIN, B.W.
Inhibitory agents and chemical mechanisms in the dihalomethane mediated nitrosation of amines with solid nitrite
- ✓ 25 12.00 - 12.20 JØRGENSEN, K.A. & LANESESSON, S.-O.
The reaction of *N*-nitroso compounds with the dimer of *p*-methoxyphenylthionophosphine sulfide. New aspects of the destruction of the *N*-nitroso function

0000025711

Analysis

Rapporteur: D. Fine

Chairman: T. Juszkievicz

- ✓ 14.30 - 14.50 CHEN, C.B., HECHT, S.S., MCCOY, G.D. & HOFFMANN, D.
Assays for metabolic α -hydroxylation of *N*'-nitrosomornicotine and *N*-nitrosopyrrolidine and the influence of modifying factors
- ✓ 14.50 - 15.10 FINE, D.H., GOFF, E.U., KRULL, I.S. & ROUNBEHLER, D.P.
Some recent advances in the analysis of *N*-nitrosamines
- ✓ 15.10 - 15.30 FAZIO, T.E., HAVERY, D.C. & HOWARD, J.W.
Determination of volatile *N*-nitrosamines in foodstuff:
I - A new technique for confirmation by GC-MS
II - A continued survey of foods and beverages
- ✓ 15.30 - 15.50 HOTCHKISS, J.H., LIBBEY, L.M., BARBOUR, J.F. & SCANLAN, R.A.
Combined GC/TEA and GC/MS/DS techniques for the $\mu\text{g/kg}$ estimation and confirmation of volatile *N*-nitrosamines in foods

Chairman: T. Kawabata

- ✓ 16.10 - 16.30 RHOADES, J.W., HOSENFELD, J.M., TAYLOR, J.M. & JOHNSON, D.E.
Comparison of analysis of wastewaters for *N*-nitrosamines by various detectors
- ✓ 16.30 - 16.50 WALTERS, C.L., HART, R.J., KEEFER, L.K. & NEWBERNE, P.M.
The sequential determination of nitrite, *N*-nitroso compounds and nitrate and its application
- 16.50 - 17.30 General discussion on chemistry, formation and analysis

THURSDAY 18 OCTOBEROccurrence

Rapporteur: M. Castegnaro

Chairman: W. Lijinsky

- ✓ 9.00 - 9.20 SEN, N.P., SEAMAN, S. & McPHERSON, M.
Further studies on the occurrence of volatile and nonvolatile nitrosamines in foods, and some recent improvements in the methodology for nitrate and nitrite in foods and animal feeds
- ✓ 9.20 - 9.40 SPIEGELHALDER, B., EISENBRAND, G. & PREUSSMANN, R.
Occurrence of nitrosamines in food:
a survey of the West German market

0000025712

✓ 34 9.40 - 10.00 KAKABATA, T., UIRU, J., OISHIMA, H., MATSUI, M.,
HAMANO, M. & TOKIWA, H.

Occurrence, formation and precursors of *N*-nitroso
compounds in Japanese diet

✓ 35 10.00 - 10.20 * HOFFMANN, D., ADAMS, J.D., PIADÉ, J.J. & HECHT, S.S.

Analysis of volatile and tobacco specific nitrosamines
in tobacco products

✓ 36 10.20 - 10.40 ZWEIG, G., SELIM, S., HUMMEL, R., MITTELMAN, A.,
WRIGHT, D.P., Jr, LAW, S.C., Jr & REGELMAN, E.

Analytical survey of *N*-nitroso contaminants in
pesticide products

Chairman: D. Hoffmann

✓ 37 11.00 - 11.20 RAPPE, C. & RYDSTROM, T.

Occupational exposure to *N*-nitroso compounds

✓ 38 11.20 - 11.40

FAJEN, J.M. *rubber, printing, tanning industry, machinery operations*
N-Nitroso compounds in the factory environment

✓ 39 11.40 - 12.00

BARTHOLOMEW, B.A., HILL, M.J., HUDSON, M.J., RUDDELL, W.S.J.
& WALTERS, C.L.

Gastric bacteria, nitrate, nitrite and nitrosamines
in patients with pernicious anaemia and in patients
treated with cimetidine

✓ 40 12.00 - 12.20

KOWALSKI, B., MILLER, C.T. & SEN, N.P.

Studies on the *in vivo* formation of nitrosamines in rats
and humans after ingestion of various meals

✓ 41 12.20 - 12.40

BRUCE, W.R., DION, P., WANG, S., BOYD, N. & BRIGHT-SEE, E.

Dietary factors and levels of fecal mutagens and
nitrosamines

Posters

Chairman: P. Bogovski

Rapporteurs: S. Hecht
C.L. Walters
L. Gričiute

14.30 - 16.00 Poster session*

16.00 - 17.30 Discussion on posters

* List of posters given separately

0000025713

FRIDAY 19 OCTOBER

Experimental Pathology

Rapporteur: S. Vesselinovitch

Chairman: K. Lapis

- ✓ 42 9.00 - 9.20 VESSELINOVITCH, S.D.
Infant mouse as a sensitive bioassay system for carcinogenicity of *N*-nitroso compounds
- ✓ 43 9.20 - 9.40 EISENBRAND, G., HABS, M., PREUSSMANN, R. & SCHMAHL, D.
Dose-response study with *N*-nitrosopiperidine and single-dose carcinogenicity experiment with *N*-nitroso-3-hydroxypyrrolidine
- ✓ 44 9.40 - 10.00 SUGAR, J., SZENTIRMAI, Z. & KRALOVANSZKY, J.
Pathological features of *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine (MNNG) induced neoplastic and preneoplastic lesions of rat stomach
- ✓ 45 10.00 - 10.20 BORZSONYI, M., SURJAN, A., PINTER, A., TOROK, G., CSIK, M., TAMAS, J., FETTER, J. & FERENCZ, A.
Endogenous formation of *N*-nitrosomorpholine from a new fungicide
- ✓ 46 10.20 - 10.40 WARZOK, R., MENDEL, J., THUST, R., SCHWARZ, H. & SCHNEIDER, J.
Physico-chemical, mutagenic and carcinogenic properties of nitrosated urea herbicide metabolites

Chairman: R. Preussmann

- ✓ 47 11.00 - 11.20 FONG, L.Y.Y., WONG, F.W.T. & CHAN, W.C.
Does *in vivo* *N*-nitrosamine formation in chronic urinary tract infection increase cancer incidence in the rats?
- ✓ 48 11.20 - 11.40 SANSONE, E.B., LOSIKOFF, A.M. & LIJINSKY, W.
The penetration of rat skin by some nitrosamines of environmental importance
- ✓ 49 11.40 - 12.00 SIMON, K., TAJTI, L. & LAPIS, K.
Hepatic lesions of *lebiastes reticulatus* induced by DENA
- ✓ 50 12.00 - 12.20 BOGOVSKI, P.
Principles of prevention of formation and action of carcinogenic *N*-nitroso compounds
- 12.20 - 12.40 Discussion
- 12.40 Close of meeting.

0000025714

Posters to the topic: Chemistry and Formation

- ✓ 51 ✕ CONTOUR, J.P., GUERIN, I. & MOUVIER, G.
Adsorption of nitrogen dioxide and nicotine over asbestos.
Formation of adsorbed *N*-nitroso compounds
- ✓ 52 ✕ JANZOWSKI, C., KLEIN, R. & PREUSSMANN, R.
Formation of *N*-nitroso compounds of the pesticides atrazine, simazine and carbaryl with nitrogen oxides
- 53 ROPER, H.
Synthesis of monosaccharide-nitrosamines
- ✓ 54 IQBAL, Z.M., KRULL, I.S., MILLS, K., FINE, D.H. & EPSTEIN, S.S.
Kinetics of nitrosamine formation in mice following oral administration of trace-level precursors

Posters to the topic: Analysis

- ✓ 55 CASTEGNARO, M. & WALKER, E.A.
Report on collaborative studies on determination of volatile nitrosamines in cheese and pesticides
- ✓ 56 FELLION, Y., de SMEDT, J. & BRUDNEY, N.
An HPLC-UV method for the direct evaluation of NDELA in some cosmetic products and raw materials

Posters to the topic: Occurrence

- ✓ 57 ISSENBERG, P. & SWANSON, S.E.
Monitoring exposure of personnel to volatile nitrosamines in the laboratory environment
- ✓ 58 PEDERSEN, E., THOMSEN, J. & WERNER, H.
Investigations on formation and occurrence of volatile nitrosamines in Danish cheese
- ✓ 59 TAYLOR, P., BRADDOCK, P. & CARTER, D.
The analysis of *N*-nitrosodimethylamine (NDMA) in antihistamines and cough/cold preparations
- ✓ 60 JUSZKIEWICZ, T., KOWALSKI, B. & PASTUCHA, E.
Occurrence and formation of nitrosamines in animal feeds
- ✓ 61 MIGASEVA, P., REAINSUMAN, W. & CHANGBUNRUNG, S.
Nitrates, nitrites and nitroso compounds in local Thai preserved protein foods

0000025715

62 PREDA, N. & POPA, L.

Variation of the concentration of *N*-nitroso compounds in meat products processed with minimal nitrite amounts

✓ 63 ARMILJO, R.

Stomach cancer and nitrates in Chile

✓ 64 JUHASZ, L., HILL, M.J. & NAGY, G. ?

Possible relationship between nitrate in drinking water and incidence of stomach cancer

✓ 65 TUREK, B., HLAVSOVA, D., TUCEK, J., WALIMAN, J. & CERNA, J.

The contribution to the fate of nitrates and nitrites in the organism

66 VARGHESE, A.J., BRUCE, W.R., KREPINSKI, J.J.F. & YATES, P. ✓

Isolation and properties of a highly mutagenic *N*-nitroso compound from human feces

✓ 67 WALKER, E.A., CASTEGNARO, M., PIGNATELLI, B., CRESPI, M. & MUNOZ, N.

Preliminary report on volatile nitrosamines in gastric juices

Posters to the topic: Experimental Pathology

✓ 68 LIJINSKY, W.

Comparative carcinogenicity of *N*-nitroso compounds in different species

69 * HECHT, S.S., CHEN, C.B. & HOFFMANN, D. ✓

Metabolism of tobacco specific nitrosamines in rodents and man

✓ 70 EMURA, M., RICHTER-REICHHELM, H.-B. & MOHR, U.

Some aspects of prenatal risk to diethylnitrosamine carcinogenesis

✓ 71 KOPPANG, N.

A survey over 18 years with experimental feeding of nitrosodimethylamine to domestic animals

✓ 72 GINER-SOROLLA, A., ANDERSON, L.M., GREENBAUM, J.H., LAST, K. & BUDINGER, J.H.

N^6 -(methylnitroso)adenosine: a carcinogen from a nucleic acid component

✓ 73 THUST, R., MENDEL, J., SCHWARZ, H. & WARZOK, R.

Clastogenicity and aberration kinetics of some alkylarylnitrosoureas in Chinese hamster V79-E cells

✓ 74 RUSU, M.A., PREDA, N., CRACIUN, C., GADALEANU, V. & BUCUR, N.

Histoenzymological and ultrastructural changes in rats following the administration of aminopyrine and nitrite (nitrosoaminopyrine)

75 SURJAN, A., TOROK, G., BORZSONYI, M., PINTER, A., CSIK, M. & FETTER, J.

Effect of ascorbyl palmitate and chlorogenic acid on the *in vivo* nitrosation of a new pesticide (trimorphamide)

76 GRICIUTE, L.

Investigation on the combined action of NDFA with other carcinogens

0000025716

In Grateful Appreciation

ALKALOIDA

BAYER AG

CHEMICAL MACHINE WORKS OF BUDAPEST

CHINOIN PHARMACEUTICAL AND CHEMICAL WORKS LTD

CIBA GEIGY AG

EGYT PHARMACEUTICAL WORKS

HOECHST AG

HOFFMANN-LA ROCHE

NEW ENGLAND INSTITUTE FOR LIFE SCIENCES

NITROKEMIA IPARTELEPEK

SCHERING AG

SZESZIPARI VALLALATOK TROSZTJE

TAURUS HUNGARIAN RUBBER WORKS

NOV 13 1968
T. B. GEDENE

0000025717

NOV 13 1979

T. S. OSDENE

0000025718